

3.0 AFFECTED ENVIRONMENT

3.8 Biological Resources

3.8.1 Native Biological Resources

The desert floor of the Coachella Valley ranges in elevation from more than 150 feet below sea level at the southeast end to nearly 2,000 feet at the northwest end of the valley on the alluvial fans. The mountains surrounding the Coachella Valley range in elevation up to 10,804 feet, with elevations on the southern side of the valley substantially higher than those on the northern side. This range of elevations and accompanying differences in temperature, precipitation and other environmental variables are significant factors contributing to the area's remarkable variety of plant and animal species.

Many canyons in the mountains support riparian areas not typical of a desert environment. Streams and seeps also support many palm oases, especially in the Santa Rosa Mountains. Where the water drains into the washes, desert dry wash woodlands result. The alluvial fans associated with the canyon mouths provide still another major land form and distinctive biological community. Another feature contributing to the biological diversity are the strong winds that funnel through the San Geronio Pass from the west through areas of sand deposition from the San Geronio and Whitewater rivers and create an aeolian dune system. Historically, this dune system occupied much of the center of the valley.

The San Andreas fault zone has created a unique corridor of palm oases stretching along the southern side of the Indio Hills where water is forced to or near the surface by the damming action of the fault. Mesquite hummocks and mesquite bosques area also associated with the fault in some areas. The Salton Sea contributes to biological diversity through the creation of marsh, mudflat, and other wetland habitats. The low elevation of the Salton Sea trough creates an arid, hot environment, which combined with the salinity of the soils, produces an uncommon alkali sink scrub community.

According to Peter Raven, writing in *Terrestrial Vegetation of California*, "California contains the most remarkable assemblage of native plant species in all of temperate and northern North America." One of the two highest centers of endemism in California for "relict species," (i.e. those that have persisted from earlier geologic periods in California) is in the northern and western margin of the Colorado Desert, from the Little San Bernardino Mountains, along the east slope of the San Jacinto and Santa Rosa Mountains, the Borrego Valley area, and southward into Baja California.

For a number of reasons, many of these species have been identified by state and federal agencies as needing additional protection to ensure their continued survival. These special status species include nine federally listed endangered species, all state listed threatened and endangered species within the Coachella Valley Plan Amendment planning area, species designated as sensitive by the BLM in California, as candidate

species by the USFWS, and as species of special concern by the USFWS and the California Department of Fish and Game (CDFG). A complete listing of the species considered in the CVMSHCP is provided in Table 3-6. Species accounts are provided in Appendix F. By including these latter species in the CDCA amendment, the BLM hopes to prevent future listings of species in the Coachella Valley. BLM will use recommendations from available recovery plans, research information and data, and other documents on special status species, to establish management prescriptions and guidelines that will facilitate recovery of these species and prevent additional listings.

Table 3-6: Special status species in the Coachella Valley

COMMON NAME	SCIENTIFIC NAME	STATUS
Arroyo Toad	<i>Bufo microscaphus californicus</i>	FE
Burrowing Owl	<i>Speotyto cunicularia</i>	BLM Sensitive Species
California Black Rail	<i>Laterallus jamaicensis</i>	ST
Casey's June Beetle	<i>Dinacoma caseyi</i>	None
Coachella Valley Fringe-toed Lizard	<i>Uma inornata</i>	FT, SE
Coachella Valley Giant Sand Treader Cricket	<i>Macrobaenetes valgum</i>	None
Coachella Valley Grasshopper	<i>Spaniancris deserticola</i>	None
Coachella Valley Jerusalem Cricket	<i>Stenopelmatus calhouni</i>	None
Coachella Valley Milk Vetch	<i>Astragalus lentiginosus coachellae</i>	FE
Coachella Valley Round-tailed Ground Squirrel	<i>Spermophilus tereticaudus chlores</i>	SSSC
Crissal Thrasher	<i>Toxostoma crissali</i>	SSSC
Desert bighorn sheep	<i>Ovis Canadensis nelsoni</i>	BLM Sensitive Species
Desert Pupfish	<i>Cyprinodon macularius macularius</i>	FE, SE
Desert Slender Salamander	<i>Batrachoseps aridus</i>	FE, SE
Desert Tortoise	<i>Xerobates (or Gopherus) agassizii</i>	FT, ST
Flat-tailed Horned Lizard	<i>Phrynosoma mcallii</i>	FP, SSSC
Gray Vireo	<i>Vireo vicinior</i>	BLM Sensitive Species SSSC
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	FE, SE
Le Conte's Thrasher	<i>Toxostoma lecontei</i>	BLM Sensitive Species SSSC
Little San Bernardino Mountains Linanthus (formerly Gilia)	<i>Linanthus maculata</i>	BLM Sensitive Species, FC
Mecca Aster	<i>Xylorhiza cognata</i>	None
Orocopia Sage	<i>Salvia greatae</i>	SSSC
Palm Springs Pocket Mouse	<i>Perognathus longimembris bangsi</i>	None
Peninsular Ranges Bighorn Sheep	<i>Ovis canadensis nelsoni</i>	FE, ST
Pratt's Blue Butterfly	<i>Euphilotes enoptes cryptorufes</i>	None
Southern Yellow Bat	<i>Lasiurus ega (xanthinus)</i>	SSSC
Southwestern Willow Flycatcher	<i>Empidonax traillii eximius</i>	FE, SE
Summer Tanager	<i>Piranga rubra cooperi</i>	SSSC
Triple-ribbed Milk Vetch	<i>Astragalus tricarinatus</i>	FE

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COMMON NAME	SCIENTIFIC NAME	STATUS
Yellow-breasted Chat	<i>Icteria virens</i>	SSSC
Yellow Warbler	<i>Dendroica petechia brewsteri</i>	SSSC
Yuma Clapper Rail	<i>Rallus longirostris yumanesis</i>	FE, ST

FE = Federal Endangered Species

SSSC = State Species of Special Concern

FT = Federal Threatened Species

SE = State Endangered Species

FP = Federal Proposed Species

ST = State Threatened Species

The Peninsular Ranges population of desert bighorn sheep was listed as endangered by the USFWS on March 18, 1998. During the past 26 years, the population has declined dramatically from about 1,100 animals to as few as 300 sheep. Overall, between 1984 – 1990, bighorn sheep populations in the Santa Rosa and San Jacinto Mountains declined 69% (Bighorn Institute 2000). This decline has been attributed to a variety of causes, including disease, automobile collisions, mountain lion predation, exotic plant invasion, toxic plant ingestion, competition with cattle, habitat loss, degradation and fragmentation, and recreational disturbance. During 1992-1998, mountain lion predation accounted for 69% of bighorn mortality in the Peninsular Ranges, accounting for 50-100% of all mortality annually (Hayes et al. 2000). Preliminary results from an on-going lamb mortality study reveal that 56% of lamb mortality is attributed to predation and 89% of all mortality occurred within 300 meters of the urban-wildland interface. Disease is thought to have played a pivotal role in the decline of bighorn sheep during 1983-1994. However, the cause-effect relationship relative to disease in the Peninsular Ranges has not been clearly established (USFWS 2000). Global climate change may also play a role in the decline of bighorn sheep populations, rangewide. Researchers in Wyoming are investigating the interactions of drought and micro-nutrients such as selenium, on reproductive success of bighorn sheep. Preliminary results indicate that global warming may be influencing reproductive success of bighorn sheep in Wyoming. There may be implications for other bighorn sheep ranges, such as the Peninsular Ranges, which are in the path of air pollution coming from San Diego and the greater Los Angeles area.

In recent years, the bighorn population in the Peninsular Ranges has stabilized and appears to be increasing. From 1990 to 1995, the population was stable but in 1996, ewe survival was low and the population declined again (Bighorn Institute 2000). Between 1997 – 2001, bighorn sheep populations in the Santa Rosa Mountains increased an average of 15.3%.

BLM has implemented interim measures to promote recovery of bighorn sheep populations. Current management activities by BLM have resulted in reduced human disturbance (voluntary trail avoidance program described in Section 3.4 – Recreation), reduced harassment and impacts from domestic dogs by closing all but 3 specific areas in bighorn habitat to dogs), disclosure of the impacts of research and monitoring on bighorn sheep (preparation of a programmatic environmental assessment in October 2001, examining the effects of research and monitoring and providing a mechanism for issuing research permits). BLM is committed to continuing efforts to reduce all human impacts on bighorn sheep, including research and monitoring. Current research techniques, including GPS collars, remote data collection, and monitoring enable

researchers to collect data while minimizing impacts on sheep. BLM continues to work with state and federal agencies, universities, and private researchers to seek alternative, non-invasive research and monitoring techniques. Research and monitoring permit requests are evaluated using the existing Decision Record for the abovementioned environmental assessment, with attention to implications of research that promote recovery for bighorn sheep. In addition, per Public Law 106-351 – October 24, 2000, BLM-managed public lands in the Santa Rosa and San Jacinto Mountains National Monument are withdrawn from mineral entry. The need for utility corridors or communication sites will be set forth in the Resource Management Plan for the National Monument.

Through implementation of the CVMSHCP and BLM's CDCA Plan Amendment, long-term management direction for protection and recovery of Peninsular Ranges bighorn sheep will be established. The Bighorn Sheep Recovery Plan, completed in October 2000, provides recommendations for developing and assessing conservation and management activities in order to achieve recovery of the bighorn. Recommendations from the recovery plan have been incorporated into the CVMSHCP and the Coachella Valley CDCA Plan Amendment.

Several of the alternatives (such as the habitat conservation objectives) and much of the biological analysis conducted for this CDCA Plan Amendment are based in large part on the draft Technical Appendix (July, 2001) prepared for the Coachella Valley Multiple Species Habitat Conservation Plan, by the Coachella Valley Mountains Conservancy with input from the Scientific Advisory Committee, USFWS, CDFG, BLM, and citations from numerous scientific papers and documents addressing sensitive species. The draft Technical Appendix provides detailed information about the vegetative communities found in the planning area, the various plant and wildlife species which occupy these communities, and natural history information about each of the plant and wildlife species. A summary of the draft Technical Appendix, which is incorporated into this document by reference, is provided in Appendix E.

3.8.2 Exotic (Non-native) Weeds and Pests

Noxious weeds are a serious problem in the western United States. Estimates of the rapid spread of weeds in the west include 2,300 acres per day on BLM-administered lands and 4,600 on all western public lands. For example, many weed species like perennial pepperweed (tall whitetop), purple loosestrife, yellow star thistle, hoary cress (short whitetop), leafy spurge, spotted knapweed, diffuse knapweed, and many others are non-native to California and the United States and have no natural enemies to keep their populations in balance. As a result, these undesirable weeds rapidly invade healthy ecosystems, displace native vegetation, reduce species diversity, degrade wildlife habitat and special areas such as wilderness, wilderness study areas, areas of critical environmental concern, National Conservation Areas, and National Monuments. Noxious weed invasions reduce rehabilitation and landscape restoration successes, reduce domestic and wildlife grazing capacity, increase soil erosion and stream sedimentation, and threaten federally protected plants and animals.

Exotic pests, such as brown-headed cowbirds, non-native ants, African frogs, tilapia, bullfrogs, and crayfish, all contribute to the decline of native wildlife species. These species tend to out-compete the native fauna for scarce resources and are often aggressive predators of the native wildlife species. Domesticated animals, such as cats and dogs, can be very destructive to the native fauna. Studies have shown that natural areas along urban interfaces where cats and dogs are allowed to run wild, result in wildlife sinks (high mortality areas for native wildlife).